

ABSTRACT

A system and method for estimating parameters of multiple tones in an input signal. The method includes receiving samples of the input signal, generating a
5 frequency transform (FT) of the samples, identifying multiple amplitude peaks in the FT corresponding to the tones, and determining parameter estimates characterizing each of the multiple tones based on the peaks. For each tone, the effects of the other tones are removed from the FT of the peak of the tone using the parameter estimates of the other tones to generate modified FT data for the tone. Single tone estimation is applied to the
10 modified FT data to generating refined parameter estimates of the tone, which is used to update the parameter estimates of the tone. After refining the estimates for each tone, the entire process may be repeated one or more times using successive refined estimates to generate final estimates for the parameters.